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Perceptions and Reasons for Dissatisfaction with PMTCT Services among Women Living with HIV during the PMTCT Scale-up in Akwa-Ibom, Nigeria

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Abstract

This study assessed perceptions and satisfaction with PMTCT services, and reasons for dissatisfaction among women living with HIV who received PMTCT services in Akwa Ibom State, Nigeria. Data for this cross-sectional study was collected using a validated questionnaire from women living with HIV who were at least two months post-partum between January – March 2023 and had received PMTCT services during the PMTCT scale-up period (January 2022 – December 2022) across 13 health facilities in Akwa Ibom, Nigeria. Client perception and satisfaction were assessed based on the Mosadeghrad framework for quality of care. Women with satisfaction scores ≥ the cut-off were classified as "satisfied," otherwise "not satisfied". Logistic regression analysis determined differences in satisfaction, at p-value ≤0.05. A total of 631 women living with HIV participated: 435 (69%) were 25-34 years old, 524 (83%) were married, 59% resided in rural areas and 414 (66%) received their first antenatal care at a health facility. Participants had the lowest perception regarding their ability to access PMTCT services at any day and time, with only 74% responding affirmatively. Conversely, 99% of participants responded that their care providers listened to their concerns and provided adequate information in a friendly manner. Overall, 71.5% (450/629) of participants were satisfied with the PMTCT services. The main reasons for dissatisfaction were the proximity of services, staff attitude and professionalism and providers' knowledge and skills. By addressing these, the PMTCT program can meet the needs of women living with HIV, ultimately contributing to better health outcomes and a reduction in mother-to-child transmission rates.

Keywords: *Client Perception, Nigeria, PMTCT, Reasons for Dissatisfaction.*

Introduction

Approaches to the elimination of vertical transmission of HIV, aimed at reducing mother-to-child transmission (MTCT) of HIV to less than 5%, are critical to attaining the UNAIDS goal by 2030 [1,2]. According to the World Health Organization, over 1.3 million women living with HIV become pregnant each year, significantly increasing the risk of transmission from mother to child (also known as vertical transmission) during pregnancy, labour or delivery. Without interventions, the risk of this vertical transmission ranges from 15% to 45% [2,3]. However, with effective prevention of mother-to-child transmission of HIV (PMTCT) interventions, over 99% of pregnant women living with HIV will not transmit HIV to their babies [4]. Due to relatively weak health systems, pregnant women in Sub-Saharan Africa do not have access to skilled attendants

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at birth leading to poorer pregnancy outcomes [5]. In 2019, the vertical transmission rate in Sub-Saharan Africa was 8% [6]. These rates vary within the region, with countries offering more comprehensive and accessible PMTCT services achieving lower MTCT rates [1].

Nigeria has one of the highest MTCT rates (23% in 2023) and accounts for about 41% of vertically transmitted HIV infections among children in Sub-Saharan Africa [1, 7]. It is one of the two Global Alliance countries where vertical transmission rates are not declining, with only 33% of pregnant and breastfeeding women living with HIV on ART [1]. The uptake of health facility-based PMTCT services among pregnant women is poor in Nigeria [8]. Perceived service quality and client satisfaction are recognized factors that affect service uptake in antenatal settings [9,10]. Sustained ART among pregnant and breastfeeding women living with HIV is a crucial component of effective PMTCT services [11], and this can be hindered by multiple factors that eventually lead to an interruption in PMTCT services [12,13]. Patient perception and satisfaction with services are known to influence client retention in clinical care and adherence to lifelong ART, which can improve PMTCT outcomes [14]. Optimizing patient satisfaction with PMTCT services is therefore crucial for retention in care throughout the PMTCT cascade.

Before 2021, the entry points for PMTCT services in Nigeria were integrated into maternal and child health services, majorly through antenatal clinics in health facilities [5,15]. These services included HIV counselling and testing during antenatal, delivery, and postnatal care; HIV care and treatment for women diagnosed with HIV; antiretroviral prophylaxis for the infant exposed to HIV; counselling on reproductive health choices and infant nutrition; early infant diagnosis; and rapid linkage to ART commencement for infants diagnosed with HIV. Infants who test HIV negative are followed up until 18 to 24 months, and the mother-baby pair is discharged after determining the final HIV status of the HIV-exposed infants [5,15].

However, due to the high patronage of community-based antenatal care by pregnant women, Nigeria developed state-specific frameworks for PMTCT scale-up in 2021 [16,17]. Activities in the framework included mapping and expanding HIV testing services to community service delivery structures providing pregnancy-related services, expanding HIV testing services to community birth centres, linking pregnant women diagnosed with HIV to facility-based PMTCT services, training healthcare workers on PMTCT services, strengthening service delivery points for PMTCT, providing client literacy materials, managing commodities, and promoting data quality. These efforts aimed to create demand for PMTCT, increase uptake and timely utilization of PMTCT services by women, and ensure the elimination of MTCT in Nigeria to achieve the 2030 UNAIDS fast-track targets [8].

Without client satisfaction, there will be little incentive for women to uptake PMTCT services. Several studies have identified the convenient physical environment of waiting areas, wait time, the attitude of health providers, confidentiality of information, privacy, and providers' skills, as influencers of client satisfaction with PMTCT services generally [18,19]. The satisfaction of pregnant women with health services in Nigeria has been widely reported [20,21]: George L U and colleagues [20] assessed client satisfaction with antenatal care services among pregnant women attending antenatal care in a tertiary facility in Cross River State and reported an overall 92% satisfaction, with long waiting time identified as the most common reason for dissatisfaction, while Ashipa, T, et al [21] in Edo State assessed clients with the PMTCT counselling service in antenatal clinics and found 61% dissatisfaction.

However, these studies were conducted before the implementation of the PMTCT scale-

up and were largely limited to one or two health facilities. There is limited evidence of client satisfaction with PMTCT services across multiple centres that deliver different levels of care to pregnant women. Also, there is little evidence of satisfaction studies conducted among pregnant women living with HIV in Nigeria. This study aims to assess clients' experiences, including perceptions and satisfaction, with PMTCT services, and to identify reasons for dissatisfaction among women living with HIV who received PMTCT services in Akwa Ibom State, Nigeria.

Methods

Selection of the Area

The cross-sectional study was conducted in Akwa Ibom State, Nigeria, with an estimated population of 5.4 million. HIV prevalence was 10.9% among pregnant women in 2012 and 5.5% among the general population in 2018 [22-24]. The state has thirty-one (31) Local Government Areas, and the health system is organised based on the level of medical expertise into primary, secondary and tertiary, with the highest level of care available at tertiary facilities where specialists and sub-specialists provide services, and the lowest level available at primary health facilities where community healthcare workers and nurses provide services [25]. Community birth attendants also provide care for pregnant women in the state [26].

Sample Size Determination and Sampling Technique

Health facility: Simple random sampling by balloting was used to select 7 out of the 31 Local government areas in Akwa Ibom State and 13 health facilities (5 primary, 7 secondary and 1 tertiary) out of the 46 across the LGAs.

Participants: The study involved a total sampling of women living with HIV in their post-partum period, who came for their post-delivery PMTCT services between January 2023 and March 2023, and had antenatal care between January 2022 and December 2022 (the national PMTCT scale-up program period). Only women who were at least two months post-delivery were included to ensure the minimum prevention package for infants exposed to HIV was delivered.

Inclusion criteria:

1. Woman living with HIV.
2. Had a live birth and is at least 2 months post delivery.
3. Received PMTCT services in a health facility between January and December 2022
4. Presenting for post-delivery PMTCT services between January and March 2023 in one of the seven study sites.

Data collection

Between January and March 2023, the health records of women living with HIV who presented for post-delivery PMTCT services at the study sites were reviewed by the service providers. Those eligible for the study (i.e. received antenatal care between January and December 2022) were referred to the research assistants for informed consent and enrolment. Clients who consented to participate in the study were assured of their confidentiality, informed of the study objectives, and duration of the interview (between 30 – 45 mins), and then assigned a unique study identifier. Eligible women were interviewed by trained research assistants using a structured questionnaire on the Open Data Kit. The questionnaire accessed patients' perception and satisfaction with the quality of PMTCT services based on the five dimensions of the conceptual framework for quality of care (efficacy, effectiveness, efficiency, empathy, and environment) described by Mosadeghrad in 2012 [27]. The interaction was done in English or the local dialects depending on the client's preferences. Data extracted from the Open Data Kit was exported to Microsoft Excel for analysis. This includes the age at antenatal enrolment, marital status, LGA of residence, educational qualification, and place of antenatal care. The age

at antenatal enrolment was categorized into 10-24 years, 25-34 years and ≥ 35 years; marital status into single (never married), single (previously married), and married; LGA of residence into rural and urban; education into no education, primary, secondary and higher education, and place of first antenatal care into facility-based and community-based points. Client waiting time was assessed and defined as the average time between arrival at the health facility and receipt of PMTCT services. The primary outcomes were client perception and satisfaction with PMTCT services. Client perception was accessed across nine items using a 2-point Likert-scale instrument, "Agreed" and "Disagreed", with agreed assigned a score of "1" and disagreed "0", while client satisfaction was assessed using a 10-point Likert Scale where "1" was extremely unsatisfied and "10" was extremely satisfied. The reasons for dissatisfaction were analysed as secondary outcomes.

Data Analysis

Data on client perception of PMTCT services were summarized using descriptive statistics. The mean service rating (between ratings 1-10) was used in determining the cut-off for categorizing satisfaction scores. Women with satisfaction scores greater or equal to the cut-off were classified as "satisfied," or otherwise, "not satisfied." Adjusting for all variables, logistic regression analysis was used to determine differences in satisfaction by respondent characteristics at a significant p-value ≤0.05. All analyses were done using STATA 14.0. Reasons for low and high satisfaction ratings were summarized descriptively.

Ethics

This protocol was reviewed by Nigeria's National Health Research Ethics Committee (NHREC). Informed consent was obtained for all participants in the study. The potential benefits and risks of participating were highlighted, and participants were notified that no compensation would be paid. A high level of confidentiality and security was adhered to in handling the data from the study. Access to deidentified data was restricted to only select team members directly involved in the analysis or developing the result.

Results

A total of 758 records for women who attended antenatal care between January and December 2022 were reviewed, and 721 (95.1%) were eligible for inclusion in the study (i.e. were up to 2 months post-delivery). However, only 631 persons (87.5% of eligible) who visited the health facility for post-delivery PMTCT services within the study period and were referred to the research assistants consented to participate in the study. Of these 631 respondents, 435 (68.9%) were between 25-34 years; 524 (83%) were married, 59% resided in rural areas and 414 (66%) received their first antenatal care at a health facility (Table 1).

Table 1. Demographic Distribution of the 631 Eligible Pregnant Women Who Presented for Post-delivery PMTCT Services at the Study Sites in Akwa Ibom State, Nigeria

Characteristics		**Frequency**	**Percent (%)**
Age at antenatal enrolment (in years)	10-24	105	16.6
	25-34	435	68.9
	≥35	87	13.8
	Missing values	4	0.6
Marital status	Single (Never Married)	87	13.8
	Single (Previously Married)	20	3.2
	Married	524	83.0
LGA of residence	Urban	255	40.4

	Rural	372	59.0
	Missing values	4	0.6
Education	No education	9	1.4
	Primary	119	18.9
	Secondary	393	62.3
	Higher education	110	17.4
Place of first antenatal care	Community-based	213	33.8
	Health Facility-based	414	65.6
	Missing values	4	0.6

Client Waiting Time

Of the 629 participants who responded on their average wait time for PMTCT services, their wait time ranged from 1 to 6 hours, with a mean service waiting time of 1.7 hours.

Perception of Service Delivery

Among all indices measured, participants had the worst perception about their ability to access PMTCT services at any day and time as only 74% of them responded in the affirmative, compared to 99% of participants who responded that their care providers would listen to their concerns and provide adequate information in a friendly manner (Table 2).

Table 2. Perception of Service Delivery among Women Who Received PMTCT Services in Akwa Ibom State, Nigeria

Items	**Responded**	**Agreed**	**%Agreed**
1. The waiting space at the clinic/care centre was convenient	628	618	98%
2. The care providers would listen to my concerns and provide adequate information in a friendly manner	571	563	99%
3. People are treated with respect & dignity at this site	629	618	98%
4. Information about my HIV status is handled confidentially	628	612	97%
5. Privacy is maintained during service delivery	629	619	98%
6. There is enough time and opportunity given to discuss health concerns with the provider	629	618	98%
7. The service providers at the health facility have needed skills /experience for my care and treatment	630	615	98%
8. On average, the wait time to be attended to for services is considerable.	629	524	83%
9. There is access to services at any day and time (including weekends)	627	464	74%

Table 3 shows a more detailed breakdown of the client perception by the different demographics. It shows that among participants who expressed views about their ability to access PMTCT services at any day and time, those with primary education (55.6%) and those residing in rural LGAs (67.2%) had lower perception than their higher education (72.3%) or urban (83.9%) colleagues, and those who were single but previously married had the highest perception of all demographics (90.0%). Also, only 22.2% of participants with primary education perceived the average wait time to be fair compared to 87% of those with tertiary education. Conversely, single but previously married women had the least perception of care providers' disposition to listen to their concerns and provide adequate information in a friendly manner (95.0%).

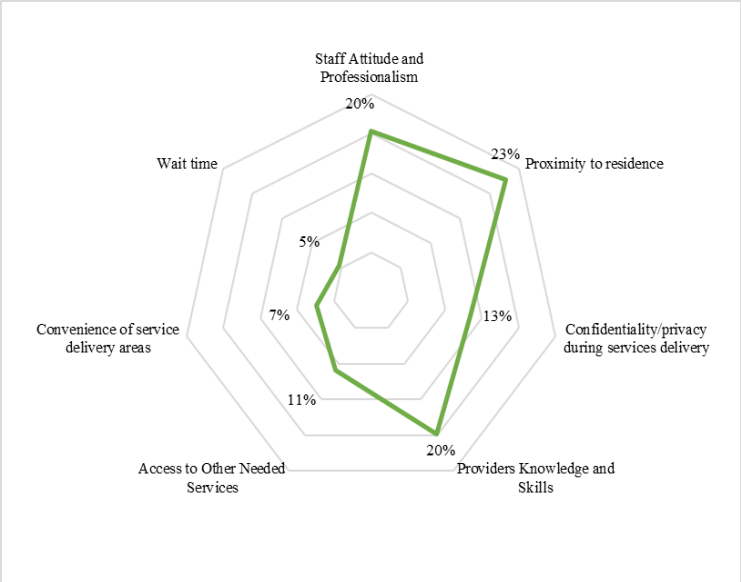

Figure 1. Reasons given by Women Living with HIV who were Dissatisfied with PMTCT Services in Akwa Ibom State, Nigeria

Table 3. Perception of Service Delivery among Women Who Received PMTCT Services in Akwa Ibom state, Nigeria disaggregated by their Demographics

Characteristics		**Total**	**The proportion of respondents who agreed**								
			Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**
Age of Women at the onset of pregnancy	10-24	105	99% (104/105)	100% (92/92)	99.0% (104/105)	98.1% (102/104)	100% (102/105)	99.0% (104/105)	100% (105/105)	75% (78/104)	73.3% 77/105
	25-34	434	97% (425/434)	98.0% (383/391)	97.9% (425/434)	96.8% (420/434)	97.7% (425/435)	97.9% (425/434)	97.1% (422/435)	84.1% (366/435)	73.4% (318/433)
	>35	84	100% (85/85)	100% (84/84)	98.8% (85/86)	100% (86/86)	100% (85/85)	98.8% (85/86)	97.7% (84/86)	88.4% 76/86	76.5% (65/85)

Marital status	Single (Never Married)	87	96.6% (84/87)	97.6% (81/83)	95.0 % (83/87)	94.3 % (82% 87)	95.4 % (83/87)	95.4 % (83/87)	96.6 % (84/87)	83.7 % (72/86)	70.9 % (61/86)
	Single (Previously Married)	20	95.0% (19/20)	95.0% (19/20)	100 % (20/20)	95.0 % (19/20)	95.0 % (19/20)	100 % (20/20)	95.0 % (19/20)	90,0 % (18/20)	90.0 % (18/20)
	Married	521	98.8% (515/521)	98.9% (463/468)	98.7 % (515/522)	98.1 % (511/521)	99.0 % (517/522)	98.7 % (515/522)	97.9 % (512/523)	83.0 % (434/523)	73.9 % (385/521)
LGA Residence	Urban	254	99.2% (252/254)	99.6% (253/254)	99.6 % (254/255)	98.8 % (251/254)	99.6 % (254/255)	92.2 % (253/255)	99.6 % (254/255)	92.5 % (326/255)	83.9 % (214/255)
	Rural	374	97.9% (366/374)	97.8% (310/317)	97.3 % (364/374)	96.5 % (361/374)	97.6 % (365/374)	97.6 % (365/374)	96.3 % (361/375)	77% (274/288)	67.2 % (250/372)
Educational level	Primary	9	100% (9/9)	100% (9/9)	100 % (9/9)	100 % (9/9)	100 % (9/9)	100 % (9/9)	100 % (9/9)	22.2 % (2/9)	55.6 % (5/9)
	Secondary and higher	119	95.8% (114/119)	97.2% (105/108)	97.5 % (115/118)	95.8 % (114/119)	96.6 % (115/119)	95.8 % (114/119)	95.8 % (114/119)	72.3 % (86/119)	72.3 % (86/119)
	Higher education	500	99% (495/500)	98.9% (449/454)	98.4 % (494/502)	97.8 % (489/500)	98.8 % (496/501)	98.8 % (495/501)	98% (492/502)	87% (436/501)	74.7 % (373/499)
Place of first antenatal care	Community-based	413	99.0% (409/413)	99.5% (384/386)	99.3 % (412/415)	98.3 % (406/403)	99.5 % (412/414)	99.5 % (412/414)	98.6 % (409/415)	86.0 % (356/414)	71.6 % (295/412)
	Health Facility-based	215	97.2% (209/215)	96.8% (179/185)	96.3 % (206/214)	95.8 % (206/205)	96.3 % (207/215)	95.8 % (206/215)	95.8 % (206/215)	78.1 % (168/215)	78.6 % (169/215)

*2 out of 631 respondents had missing responses

Satisfaction with PMTCT Services

Overall, 71.5% (450/629) participants were satisfied with the PMTCT services during the PMTCT scale-up period (i.e. scored above the mean score of (7.89 [SE = 0.094]). Married women, women who resided in rural settings, and those who had only primary education were more satisfied (<0.05) in their demographic category. There was no significant relationship between the level of satisfaction with PMTCT services and participants' age (p=0.071) or place of first antenatal care (p=0.046) (Table 4).

Table 4. Satisfaction Rating with PMTCT Services by Client Demographics among Women Who Received PMTCT in Akwa Ibom State, Nigeria

		Frequency	**Mean**	**SE**	**F-test**	**p-value**
Overall		629	7.89	0.094		
Age of Women at Index Pregnancy	10-24	105	8.38	0.18	2.65	0. 071
	25-34	435	7.80	0.12		
	>35	86	7.85	0.21		
Marital status	Single (Never Married)	87	7.02	0.29	13.52	<0.001
	Single (Previously Married)	20	6.20	0.84		
	Married	522	8.10	0.09		
LGA Residence	Urban	255	7.45	0.18	14.72	<0.001
	Rural	375	8.18	0.09		
Education	No education	9	7.78	0.86	5.67	0.004
	Primary	119	8.54	0.16		
	Secondary and higher	501	7.73	0.11		
Place of first antenatal care	Community-based	215	7.79	0.16	0.55	0.46
	Health Facility-based	415	7.94	0.11		
*Statistics is ANOVA						

Factors Influencing Client Satisfaction

A total of 747 responses were obtained as factors influencing client satisfaction with PMTCT services. The most frequently cited factor was “staff attitude and professionalism,” accounting for 21% (157/747) of responses, closely followed by the proximity of services at 20% (147/747) and confidentiality/privacy during service delivery at 19% (144/747). Other factors included providers' knowledge/skills (17%, 130/747), access to other needed services (13%, 99/747), convenience of the service delivery space (6%, 44/747), and wait time (3%, 26/747).

Among the 179 participants who were not satisfied with PMTCT services, a total of 202 responses were elicited. The main reasons for dissatisfaction were Proximity of PMTCT services to the participants’ residence (23%), staff attitude and Professionalism (20%) and providers' knowledge and skills (20%) (Figure 1).

This study aims to assess clients' experiences, including perceptions and satisfaction, with PMTCT services, and to identify reasons for dissatisfaction among women living with HIV who received PMTCT services in Akwa Ibom State, Nigeria.

Discussion

This study assessed client perception and satisfaction, including reasons for dissatisfaction, among women who received PMTCT services during the National PMTCT Scale-up in Akwa Ibom State, Nigeria. It found that 71.5% of women were satisfied with the services. However, the areas with the least favourable perception were access to services at any day and time and wait time for services. The proximity of PMTCT services to participants' residences, staff attitude, professionalism, and perceived provider knowledge and skills were the main reasons for dissatisfaction.

The satisfaction in our study (71.5%) is lower than reported in similar studies from Ethiopia (80.7% to 90%) [19,28,29], and Tanzania (92%) [30]. The differences may be attributed to differences in study settings; the Ethiopian and Tanzanian studies focused on antenatal services, while our study included ART clinics and postpartum services. In addition, our study involved women living with HIV, unlike the other studies which included pregnant women regardless of HIV status. Perceived HIV-related stigma which is still prevalent in Nigeria, and the perceived neglect associated with the postpartum period may have also contributed to the lower satisfaction [31,32].

Client dissatisfaction in our study (28.5%) was lower than in a similar Nigerian study reporting 61% dissatisfaction among pregnant women in a tertiary facility [21]. This difference may be a result of the professional rigour in tertiary facilities, which can negatively impact client satisfaction due to long wait times [33,34].

Dissatisfaction in our study was linked to three main issues: proximity of PMTCT services, healthcare provider knowledge and skills, and staff attitude and professionalism. Ajah and colleagues reported that, despite the preference of pregnant women to deliver in health facilities, proximity to the health facility influenced their decision [35]. In our setting, the proximity of PMTCT services was affected by the facility-based approach, where most services are available only in comprehensive ART health facilities. The inclusion of other PMTCT services – besides HIV testing services – in the scope of Basic Healthcare services and expanding the services to all primary health facilities, which are closer to the community, can improve accessibility.

Our findings align with Manzoor et al., who found that healthcare worker behaviour significantly affects patient satisfaction [36]. A study among pregnant women in northern Nigeria reported only 29.3% satisfaction with client-health worker communication [37]. In our setting, the increasing patient-to-healthcare worker ratio (workloads) [38,39] which leads to burnout [40], may be responsible for the poor attitude of healthcare workers. Integrated training for healthcare workers on customer relations in healthcare, and advocacy to the government for increased PMTCT workforce may improve client satisfaction.

The study had limitations, including potential recall bias, and the fact that respondents were women who returned to the health facility after delivery, which may not represent the broader experience of all the women who received PMTCT services. Despite these limitations, to the best of our knowledge, this study is the first to evaluate the satisfaction of women living with HIV who received PMTCT services in the post-PMTCT scale-up period.

Conclusion

Client satisfaction among women living with HIV who received services post-PMTCT scale-

up was suboptimal. Staff attitude and professionalism, proximity of services and confidentiality/privacy during service delivery were the major factors that influenced client satisfaction with PMTCT services. The proximity of PMTCT services to the participants' residence and healthcare provider knowledge, attitude and professionalism were the main reasons for dissatisfaction. By addressing these critical factors, the PMTCT program can better meet the needs of women living with HIV, ultimately contributing to better health outcomes and a reduction in mother-to-child transmission rates.

Author Contributions

All authors made substantial contributions to the conception and design, acquisition of data, or analysis and interpretation of data; took part in drafting the article or revising it critically for important intellectual content; agreed on the journal to which the article will be submitted; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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Data Availability Statement

The data will be made available by authors on request.

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